federal register

THURSDAY, APRIL 24, 1975

WASHINGTON, D.C.

Volume 40 ■ Number 80

PART II

ENVIRONMENTAL PROTECTION AGENCY

■

ELECTROPLATING POINT SOURCE CATEGORY

Interim Effluent Limitations and Guidelines, and Proposed Performance and Pretreatment Standards

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER N—EFFLUENT GUIDELINES AND STANDARDS

[FRL 361-3]

PART 413—ELECTROPLATING POINT SOURCE CATEGORY

Interim Regulations

Notice is hereby given that effluent limitations and guidelines for existing sources set forth in interim final form below are promulgated by the Environmental Protection Agency (EPA). On March 28, 1974, EPA promulgated a regulation adding Part 413 to Chapter 40 of the Code of Federal Regulations (39 FR 11510). That regulation established effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources for the electroplating manufacturing point source category. The regulation set forth below will amend 40 CFR Part 413—electroplating manufacturing point source category—by revising §§ 413.10, 413.11, and 413.12 of Subpart A to change the name, expand the applicability thereof to include cadmium, tin, lead, aluminum, and iron in addition to the original coverage of copper, nickel, chromium, and zinc, and revise the definitions; and by adding effluent limitations and guidelines for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available for existing sources for the electroplating of precious metals subcategory (Subpart B), electroplating of specialty metals subcategory (Subpart C), anodizing subcategory (Subpart D), coatings subcategory (Subpart E), and chemical milling and etching subcategory (Subpart F), pursuant to sections 301 and 304(b) and (c), of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, and 1314 (b) and (c), 86 Stat. 816 et seq.; Pub. L. 92-500) (the Act). Simultaneously, the Agency is publishing in proposed form amendments to Subpart A and limitations for existing sources and standards of performance for new point sources and pretreatment standards for existing sources and new sources for Subparts B, D, E, and F.

(a) Legal Authority. Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practical control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304 (b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedural innovations, operating methods and other alternatives. The regulation herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304 (b) of the Act, for the electroplating of common metals (Subpart A), electroplating of precious metals subcategory (Subpart B), electroplating of specialty metals subcategory (Subpart C), anodizing subcategory (Subpart D), coatings subcategory (Subpart E), and chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The reports or "Development Documents" referred to below provide, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants. Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Section 307(b) of the Act requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works and 40 CFR Part 128 establishes that the Agency will propose specific pretreatment standards at the time effluent limitations are established for point source discharges. In another section of the FEDERAL REGISTER regulations are proposed in fulfillment of these requirements.

(b) Summary and Basis of Interim Final Effluent Limitations and Guidelines for Existing Sources and Proposed Standards of Performance and Pretreatment Standards for New Sources.

(1) General methodology. The effluent limitations and guidelines set forth herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and waste waters in the operation and the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which is existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available," "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

(2) Summary of conclusions with respect to the electroplating of common metals subcategory (Subpart A), electroplating of precious metals subcategory (Subpart B), electroplating of specialty metals subcategory (Subpart C), anodiz-

ing subcategory (Subpart D), coatings subcategory (Subpart E), and chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category.

(i) Categorization. Process differences, type of basis material, product design, raw materials used, size and age of facility, number of employees, geographic location, quantity of work processed, waste characteristics, water use, and treatment technologies were the factors considered as a basis for categorization. The wastes produced by processing common basis materials are similar. A single facility can process almost all basis materials without significant change in the raw materials consumed or the waste treatment technique adapted for control of any surface dissolution appearing at end-of-pipe discharge. Furthermore, the basis materials selected for most consumer products are frequently interchanged. Thus, type of basis material does not form a basis for subcategorization.

Raw materials consumed do not provide a basis for subcategorization because practical waste treatment technology identified in Section VII of the "Development Documents" is applicable to all of the usual procedures and solutions used in electroplating.

Geographic location is not a basis for subcategorization. Natural and climatic conditions such as rainfall do not affect electroplating or metal finishing processes.

Predominant among waste water constitutents are the metal cations or complexes thereof and ions that occur in cleaning, pickling, or processing baths such as phosphates, and chlorides and metal complexing agents. These constituents are common to the electroplating and finishing of all the considered metals and do not constitute reason for subcategorization.

Water use constitutes one basis of subcategorization. Waste water from electroplating processes is derived from the rinses following preplating, plating and post plating operations. The factors with the greatest influence on the volume of water used are the kinds of rinsing techniques (i.e., spray, single stage, series, and countercurrent), and shape and complexity of the part. The quantity of water required in these rinsing steps of each of the processes (the median value) has been estimated to be 80 l/sq m-operation (2.0 gal/sq ft-operation) for the electroplating of precious and common metals subcategory, 60 l/sq m-operation (1.5 gal/sq ft-operation) for the anodizing subcategory, 12 l/sq m-operation (.3 gal/sq ft-operation) for the coatings subcategory, and 90 l/sq m-operation (2.5 gal/sq ft-operation) for the etching and milling subcategory. Since it is not known from the existing data base the extent to which the above mentioned factors influence the water use, they have been expanded to the 65th percentile, 160 l/sq m-operation (4.0 gal/sq ft-operation) for the common and precious metals subcategories, 90 l/sq m-operation (2.5 gal/sq ft-operation) for the anodizing subcategory, 80 l/sq m-operation (2.0 gal/sq ft-operation) for the coatings subcategory, and 120 l/sq m-operation (3.0 gal/sq ft-operation) for the etching and milling subcategory. Section IV of the Development Documents explains in detail how these values were derived. The Agency believes that the water use factors are generous and take into account the larger volumes of water which may be required for rinsing complex parts. However, the Agency solicits additional data on the water requirement for rinsing and how this requirement is related to the shape of the part and rinsing technique.

Basic process differences constitute a second basis for subcategorization. Electroplating was separated from metal finishing processes because electroplating always requires the action of an electrical current to deposit a metallic coating on the basis material acting as an electrode. Metal finishing processes may or may not require a current and may or may not deposit a metallic coat on the basis material. The processes of anodizing, coatings, chemical etching and milling are significantly different as to warrant separate subcategories. Anodizing, usually performed on aluminum, converts the surface of the object to the metal oxide. The object serves as the anode. Coatings refer principally to chromating, phosphating, and immersion plating. Each of these processes applies a thin protective coat on the treated object. An electrical current may or may not be applied. Chemical etching and milling involve the dissolution of the basis material.

Treatment technologies constitute the third basis for subcategorization. Due to the greater dollar values of the precious metals, great strides have been taken by the industry to recover and reuse these metals. Such recovery methods as evaporation, ion exchange, and reverse osmosis are capable of reducing the concentrations of the metals in the treated stream to below detectable limits. Thus, the electroplating point source category has been subcategorized by differences in processes, water use, and treatment technologies.

Size and age of facility, and number of employees engaged in electroplating do not directly constitute a basis for subcategorization for purposes of waste water treatment. The nature, basic principles and waste characteristics of electroplating are the same in all facilities regardless of size and age. Only the quantity of waste per unit time will differ.

The number of employees engaged in electroplating does not offer a basis for subcategorization, because the amount of work that can be processed depends upon the degree of automation. However, since the number of employees appears to be highly correlated to sales, it does relate to a variance in the requirements for best practicable control technology currently available for small installations.

Based upon data contained in the Economic Analysis of Proposed Guidelines and a report prepared by Booz-Allen and Hamilton, Inc., three alternative non-automated establishment size groups were considered in developing the general variance for small platers, a 1–4 man shop, a 5–9 man shop, and a 10–19 man shop. It was concluded that few independent shops with less than 10 employees could afford to install physical-chemical treatment. While it was also apparent that a significant number of shops in the 10 to 20 employee size group would face adverse impacts due to 1977 requirements, the pollution potential created by granting a variance to this size group was felt to be larger than the benefits of alleviating the adverse economic impact. This flow could be expected to contain 2.0 kg/day (4.4 lbs/day) of each metal plated and total cyanide. A total flow of 400,000 l/day (100,000 gal/day) could be discharged from a shop in this size category. Hence, after extensive deliberation, the variance was established at the 10 employee size level. However, it should be realized that this variance is not guaranteed to small platers. State and local authorities have the option of imposing stricter standards on any electroplating or metal finishing facility.

(ii) Waste characteristics. Waste water comes from the pretreatment steps of acid pickling, alkaline cleaning, sensitizing, activation, etc., the electroplating and metal finishing steps, and the post-treatment steps of coloring and protective coating, and includes constituents from the basis material being finished as well as from the components in the processing solution. Predominant among the waste water constituents are the metal ions that occur in cleaning, pickling, or processing baths such as phosphates and chlorides, and various organic compounds. These constituents are common to the processes in these subcategories.

(iii) Origin of waste water pollutants. Waste water results from rinsing to remove films of processing solution from the surface of work pieces at the site of each operation, rinsing away spills, washing the air that passes through ventilation ducts so as to remove spray from the air before it is exhausted, dumps of spent solutions, washing of equipment, and cooling water used in heat exchangers to cool solutions in metal finishing processes. Approximately 90 percent of the water consumed is in rinsing. That used as cooling water is usually recycled for rinsing. Operating solutions to be dumped are slowly trickled into the rinse waters prior to treatment.

(iv) Treatment and control technology. Waste water treatment and control technologies have been studied for each subcategory of the industry to determine what is (a) the best practicable control technology currently available, (b) the best available technology economically achievable, and (c) the best available demonstrated control technology, processes, operating methods or other alternatives.

Best practicable control technology currently available is based upon the average of the best water use and concentrations achieved by the application of the recommended treatment technology.

The 1977 standard emphasizes treatment facilities at the end of a manufacturing process but include control technologies within the process itself. More specifically, the standard emphasizes the use of chemical methods at end-of-line combined with the best practicable within process control technology to conserve rinse water and reduce the amount of treated waste water discharged.

Chemical treatment methods include destruction of cyanide by oxidation, reduction of hexavalent chromium to the trivalent form, neutralization and coprecipitation of metals as hydroxides or hydrated oxides with settling and clarification to remove suspended solids prior to discharge. By optimum choice of pH and efficient clarification, it is possible to achieve a significant reduction in the pollutional load. The above technology has been widely practiced by many plants for over 25 years.

Having identified the technology for end-of-process treatment and recognizing the technical and practical limitations on removal of metals by this technology, further reduction in the quantity of pollutants discharged must be achieved by reduction in the volume of waste water which results principally from rinsing. Some of these controls, designed to minimize dragout of concentrated solutions or to reclaim as much dragout as possible are normal practice within the industry.

According to good practice, reclaim tanks and/or still rinses are being used and all evaporation losses are made up of the reclaimed solutions. Dragout reclaimed does not contribute to the raw waste load normally discharged from remaining rinses. Further reduction in rinse water can be achieved by use of a stagnant rinse for bath recovery or by multiple-tank countercurrent rinsing. Also, the use of advanced recovery techniques, such as evaporation, concentrate rinse water sufficiently to allow reclaim of the electroplating solution. These advanced recovery techniques are in common use for recovering the precious metals.

The best available technology economically achievable is the use of inprocess and end-of-process control and treatment to achieve no discharge of pollutants. By the use of inprocess controls to reduce the volume of waste water, it becomes economical to use end-of-process treatment designed to recover water and reuse the water within the plant. Solid wastes are disposed of by scavengers or to landfill. Some plants have been able to eliminate liquid effluent on one or more lines, using evaporation and feeding the brine back to the plating bath. One plant is using a system to eliminate liquid effluent by subjecting it to reverse osmosis after clarification. The concentrate from the reverse osmosis unit is evaporated to dryness.

In another section of the FEDERAL REGISTER regulations are proposed in fulfillment of that part of section 301(b) requiring achievement by not later than July 1, 1983 of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable.

The appropriateness of these regulations which require no discharge of process wastewater pollutants as the 1983 standard has been questioned. The Agency desires to receive new data and information on how recovery and reuse techniques can be applied to achieve the no discharge limitation. The Agency is considering promulgating a regulation which takes into account the position of the small plater and desires to receive information concerning the economic impact of a no discharge standard on the small, independent electroplater.

The best available demonstrated control technology for this industry, like the best practicable control technology currently available, emphasizes the use of chemical treatment at end-of-pipe combined with best inprocess controls to conserve rinse water. However, due to the ability of an electroplater to optimize operating conditions in a new facility, the water usage can be substantially reduced. Some new installations of the industry are already achieving this. Data indicate that the exclusive use of countercurrent rinsing can reduce water to 10 to 20 l/sq m-operation. This is well below that required for new source performance standards.

Solid waste control must be considered. Clarifier underflow or sludge contains typically 1 to 2 percent solids and can be pumped to a lagoon. Metal ions in the liquid associated with the sludge can percolate through porous soil and become a potential source of groundwater contamination. Impervious lagoons require evaporation into the atmosphere. However, where precipitation exceeds evaporation, other methods of disposing of sludge must be employed.

Lagooning can be avoided by dewatering the sludge to a semi-dry or dry condition. Several devices are available for dewatering sludge. Rotary vacuum filters will concentrate sludge containing 4 to 8 percent solids to 20 to 25 percent solids. Centrifuges can attain similar reductions and have the advantage of occupying less space. Pressure filters will produce a filtrate with less than 3 mg/l of suspended solids so that return to a clarifier is not needed. The filter cake contains 20 to 25 percent solids. Plate and frame presses and automated tank type pressure filters are also feasible. The latter can achieve a cake with a solids concentration as high as 60 percent. Filter cakes are easily collected and hauled to landfills.

Some firms offer a proprietary service for solidifying sludge by addition of chemical fixing agents. The fixing process appears to insolubilize the heavy metal ions so that in leaching tests only a fraction of a mg/l is found in solution. A fill is produced that is similar to dried clay.

The proper management of solid wastes resulting from pollution control systems must be practiced. Pollution control technologies generate many different amounts and types of solid wastes and liquid concentrates through the removal of pollutants. These substances vary greatly in their chemical and physical composition and may be either hazardous or nonhazardous. A variety of techniques may be employed to dispose of these substances depending on the degree of hazard.

If thermal processing (incineration) is the choice for disposal, provisions must be made to ensure against entry of hazardous pollutants into the atmosphere. Consideration should also be given to recovery of materials of value in the wastes.

For those waste materials considered to be nonhazardous, where land disposal is the choice for disposal, practices similar to proper sanitary landfill technology may be followed. The principles set forth in the EPA's Land Disposal of Solid Wastes Guidelines 40 CFR Part 241 may be used as guidance for acceptable land disposal techniques.

For those waste materials considered to be hazardous, disposal will require special precautions. In order to ensure long-term protection of public health and the environment, special preparation and pretreatment may be required prior to disposal. If land disposal is to be practiced, these sites must not allow movement of pollutants to either ground or surface waters. Sites should be selected that have natural soil and geological conditions to prevent such contamination or, if such conditions do not exist, artificial means (e.g. liners) must be provided to ensure long-term protection of the environment from hazardous materials, where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of the legal jurisdiction in which the site is located.

(v) Cost estimates for control of waste water pollutants. The capital costs for a treatment facility involving reduction of hexavalent chromium to trivalent chromium, destruction of cyanides and coprecipitation of metal hydroxides are estimated at $70,000 per 1,000 sq ft per hour of production and are linear for the 100 to 10,000 sq ft per hour range. The operating costs (including capital costs and depreciation) have been estimated at $11 per 1,000 sq ft processed. The minimum complete treatment plant, which includes cyanide destruction, chromium reduction, coprecipitation, and clarification, costs from $23,000 to $34,000. A minimum installation of cyanide destruction specified for small platers costs about $9,100. It is expected that a 5-man shop will pay between $36,000 and $65,000, a 10-man shop between $52,000 and $87,000, a 20-man shop between $70,000 and $100,000 and a 45-man shop between $150,000 and $190,000 for a waste treatment system.

(vi) Energy requirements and nonwater quality environmental impacts. Energy requirements for best practicable control technology currently available are low. The main expense is electricity for pumps, mixers, and control instruments—approximately 5 percent of the total expense. In looking at 18 different facilities employing chemical treatment,

the total electric cost was $75,330. The electrical energy required for treating 2.27×10^9 l/hr by a reverse osmosis unit for 4,000 hours per year is $6,400. The volume/year processed by the 18 plants is 3.96×10^9 liters. The total electrical cost for processing this water by reverse osmosis is $279,200. For best available technology economically achievable, energy costs would be the sum of chemical treatment and reverse osmosis costs, $354,530. The ratio of $354,530/$75,330 is 4.70. On this basis, one would expect a system of no discharge will increase the use and cost of energy five-fold.

(vii) Economic impact analysis. This analysis does not apply to electroplating operations covered by Phase I regulations published March 28, 1974 (i.e., platers of copper, nickel, chromium and zinc). A summary of economic impact for these operations was provided with the electroplating Phase I effluent guidelines. However, the economic relief clause for small platers provided under these interim final regulations is being extended to the aforementioned Phase I operations and supersedes a similar provision in the regulations published March 28, 1974. This modification should result in a larger number of small shops qualifying for the less stringent treatment requirements permitted under the economic relief clause. Hence, it is expected that adverse economic impacts will be reduced from those levels reported in the economic impact summary accompanying the effluent limitations guidelines published March 28, 1974.

A precise analysis of economic impact on captive installations covered by these regulations is not possible due to data limitations. Estimates of the total number of establishments vary widely and in most cases parent firms do not maintain separate financial records for captive plating shops. It is believed that there are between 2,000 and 22,000 captive plating operations covered by these regulations.

Analysis indicates that plating costs comprise a small portion of value of shipments. One contractor states:

> In terms of estimated value of plating as a percentage of total value of shipments, the heating equipment industry (SIC 3433) had the highest proportion, 6.8 percent.
>
> For most industries, the estimated value of plating as a percent of value of shipments was less than one percent.

The last point would indicate that for most industries (at the 4-digit SIC level) the value of electroplating in the final product is of minor importance.

However, it does not necessarily follow that pollution control impacts would also be minor." (Appendix A (page 5) Draft Final Report—"Review of Economic Analysis of the Electroplating Industry," Booz-Allen and Hamilton, Inc., January 16, 1975.)

For example, metal fasteners may be a product where pollution control requirements may have significant impacts. The value of this product is small and the cost of plating is a large percentage of the cost of producing the finished goods.

Nevertheless, based upon the limited information available to the Agency, it is anticipated that adverse impacts on captive establishments will not be substantial and are likely to be lower than on job shops. The Agency solicits information relating to economic impacts of these regulations on captive operations.

The economic analysis is based on the conservative assumption that few plants in the metal finishing industry have installed best practicable control technology currently available. In many cases, existing equipment can be upgraded at a fraction of the cost of a totally new facility. However, in all cases, full costs have been presumed to be necessary to meet 1977 guidelines. To the extent this is incorrect, total industry costs have been overstated.

A significant percentage of the establishments which are direct discharging are expected to close by 1977. The majority of these impacts occur in shops with less than 20 employees, primarily due to the fact that many plants in the size group do not have sufficient funds to support the cost of waste treatment. However, a large number of firms with less than 10 employees will be subject to less stringent limitations than those applicable to larger plants. This will greatly reduce their capital and annual cost requirements. Currently, such modified limitations for small plants are available only under the 1977 standards, but the Agency is reviewing the implications of including similar provisions in the 1983 standards.

Between 15 and 30 plants, or 2 to 3 percent of all plants in the industry (7 to 12 percent of direct dischargers) may close as the result of 1977 requirements. In addition, it is estimated that another 110 to 115 shops will not be able to meet 1983 treatment costs. Rather than make the substantial investment necessary for 1983 guidelines, these firms probably would close in 1977. Thus, in total, approximately 120 to 140 platers or 13 to 15 percent of all plants in the industry (57 to 65 percent of all firms which direct discharge) may shut down in 1977. The affected firms represent approximately 2,200 to 2,800 employees and about 11 to 14 percent of total industry sales.

However, if less stringent limitations for 1983 are established for small platers with less than 10 employees, spillover impacts would be ameliorated. (Spillover closures are closures occurring in 1977 and resulting from 1983 requirements.) Under these circumstances, a total of 70 to 80 shops are expected to close in 1977 (including 1977 and 1983 impacts) or 7 to 9 percent of all firms in the industry. A total of 1,750 to 1,790 jobs would be eliminated.

Most of the establishments which do not close in 1977 will either join a municipal system (if possible), or perhaps expand to a size where it is economic to install in-plant waste treatment. Assuming that pretreatment costs in 1983 do not rise above 1977 levels, it will not be economic for a small direct discharger to install 1983 treatment if the firm is competing against a municipal discharger. If 1983 pretreatment standards require treatment levels similar to best available treatment, then this analysis will require revision.

The large, low cost producers should be able to pass on their 1977 pollution control costs through price increases ranging from 12 to 16 percent. However, some small firms with less than 20 employees may face high production costs and high treatment costs in relation to sales and will be unable to recover full treatment expenditures at the market price.

No additional adverse impacts are anticipated in 1983. Although investment and annual costs are significant for 1983, industry prices are not expected to rise. This is due to the fact that most firms will be on municipal systems by 1983 and it is assumed that pretreatment costs will not increase between 1977 and 1983. The few plants that remain as direct dischargers will probably be located in isolated markets or other specialized services. In such instances, it is expected that price increases comparable to 1977 increases could be obtained to recover the incremental costs for 1983 requirements.

In spite of the potential closures and price increases required for 1977 limitations, industry volume is expected to grow by 10 percent over the period from 1973 to 1977. This growth is expected to come from new plants as well as expansion of existing plants. 1977 and 1983 requirements should have a negligible effect on regional or local economies, or on the balance of trade.

The reports entitled "Development Document for Interim Final Effluent Limitations and Guidelines and Proposed New Source Performance Standards for the Precious and Other Metals Segment of the Electroplating Manufacturing Point Source Category" and "Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Metal Finishing Segment of the Electroplating Manufacturing Point Source Category" detail the analyses undertaken in support of the interim final regulation set forth herein and are available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the regulation is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown, A–107.

When this regulation is promulgated in final rather than interim form, revised copies of the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis document will be available through the National Technical Information Service, Springfield, VA 22151.

(c) Summary of public participation. Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards proposed for the electroplating manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) Department of Interior; (4) Department of Commerce; (5) Department of Defense; (6) Department of the Treasury; (7) Water Resources Council; (8) Atomic Energy Commission; (9) Office of Management and Budget; (10) National Association of Metal Finishers; (11) Metal Finishers Suppliers Association; (12) American Electroplating Society; (13) Institute of Printed Circuits; (14) Alberts Plating Works, Inc.; (15) American Hot Dip Galvanizers; (16) American Society of Mechanical Engineers; (17) Hudson River Sloop Restoration, Inc.; (18) The Conservation Foundation; (19) Environmental Defense Fund, Inc.; (20) Natural Resources Defense Council; (21) The American Society of Civil Engineers; (22) Water Pollution Control Federation; (23) National Wildlife Federation; (24) American Institute of Chemical Engineers; (25) New England Interstate Water Pollution Control Commission.

The following responded with comments: States of Kentucky, Nebraska, Wisconsin, Connecticut, California, Virginia, North Carolina, Illinois, Texas and Indiana; Jacob Hay Company; The Harshaw Chemical Company; Mac Dermid, Inc.; Aircraft Radio and Control; Western Electric; Lancy Laboratories; BASF Wyandotte Corporation; Frederick Gumm Chemical Company, Inc.; Aldoa Company; Lea-Ronal, Inc.; Automation Plating Corporation; American Electroplaters' Society; U.S. Water Resources Council; National Association of Metal Finishers; Metal Finishers Suppliers' Association; American Institute of Chemical Engineers; Department of Defense; and Department of Interior.

The primary issues raised in the development of the interim final effluent limitations guidelines and the treatment of these issues herein are as follows:

(1) A common criticism was that area plated does not present a workable basis for the guidelines. It is very difficult, if not impossible, for an electroplater to determine the area plated.

While it is true that many installations do not presently maintain area plated records, many have stated that such a method of record keeping would be viable. Some are currently maintaining records on this basis. In a recent survey of 100 electroplating plants in New England requesting area plated data, 25 plants maintained and supplied records of area plated, 25 supplied necessary amperage and plating time data for calculating the area plated, and 15 stated that the information could be obtained with some research and would be supplied shortly. Also, suppliers of plating equipment design their lines in terms of area plated. When an electroplater purchases a line, the capacity is given in area plated. Section 308 of the Act authorizes the Administrator to require the owner or operator of any point source to establish and maintain records to determine compliance with effluent limitations. Paragraphs (b) of §§ 413.12 and 413.15 have been added to this regulation to provide the plater various means for determining the area plated.

(2) A common criticism was that the definitions of "sq m" and "sq ft" were not clear. These definitions have been revised and should be construed to mean the unmasked area exposed to the processing solution. This may include areas not specifically intended for reception of the coating. For example, the metallic portions of racks and barrels and the inside of tubular parts such as handlebars if unmasked and unplugged will also qualify as "sq m" or "sq ft" to be used in computing allowable effluent discharges. Facilities which immerse large amounts of masked area may warrant special consideration.

(3) A common criticism was that the fluoride and cadmium limits cannot be reached using the proposed technology. The contractor's draft document put forth standards based on concentrations of 5 mg/l for fluoride and 0.1 mg/l for cadmium and a flow of 80 l/sq m-operation. The fluoride standard is now based on a concentration of 29 mg/l and the cadmium standard is based on 0.3 mg/l and higher flows for each subcategory as identified in 2(1). It is believed that these limitations are generous and can be practicably achieved by all dischargers.

(4) A common criticism was that none of the plants surveyed is able to achieve all the limitations simultaneously. The guidelines are a product of the concentration of each parameter expressed in mg/l and the water use expressed in l/sq m-operation. Although many plants are meeting the concentration standards and many are meeting the water use standard, no plant was able to meet the product of the two on all parameters. The contractor's draft development document postulated guidelines which had a water use factor of 80 l/sq m. The water use factor (as previously described) and some of the concentration factors (i.e. cadmium, fluoride, aluminum and phosphate) have been revised to allow greater discharges. It is felt that this more closely represents best practicable control technology currently available.

(5) A common criticism was that a large segment of the industry wet tumbles the basis material, but no mention of this was made in the draft document. Several metal finishing processes, including wet tumbling, were not covered in the draft document, and are not subject to these regulations. Regulations for these segments will be developed at a later date when a more extensive data base has been established.

(6) A common criticism was that water use for pre and post treatment steps was not considered. The methodology used in the formulation of the regulations involved the development of a water use which intrinsically took into account the volume contributed by two to four cleaning and pickling steps. Questions have been raised about the appropriateness of not including a separate allowance for pretreatment steps. The Agency solicits additional data on the contributions made by the pretreatment steps to the volume of the waste stream, to take into account an additional water use which might be associated with an unusually large number of pretreatment steps.

The definition of operation for the calculation of effluent discharges has been expanded to include other steps in the electroplating process which are significant contributors of water. In Subparts A and B, the electroless plating on nonmetallic materials for the purpose of providing a conductive surface on the basis material, post plating steps of chromating, phosphating, and coloring, which form an integral step of the electroplating line and stripping where conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts may be included under the term "operation" for the purpose of calculating effluent discharges.

(7) A common criticism was that the effluent limitations as proposed would impose a severe economic hardship on the small plater. If small shops employ chemical treatment with good water use, they can meet the guidelines as proposed. Hence, an exemption or relaxation of the standards based on size is warranted only from an economic or administrative standpoint and not on the basis of technical feasibility of waste treatment. After an analysis of additional data supplied by the industry and a re-evaluation of the economic impact of the guidelines, it was determined that the minimum cost for effective physical-chemical waste treatment may create an economic burden on the very small plater. On the basis of this further analysis, the best practicable control technology currently available for electroplating of common metals subcategory (Subpart A), anodizing subcategory (Subpart D), coatings subcategory (Subpart E), and chemical etching and milling subcategory (Subpart F), for installations with a total employment of less than 11 persons, with a discharge of waste water generated from the electroplating or metal finishing process of less

than 7800 liters per hour (2061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee) was determined to be destruction of any cyanide present in the discharge equalization and pH adjustment. This exemption does not include precious metal platers.

8) A common criticism was that from theoretical solubility curves of metal hydroxides, the concentration basis of the effluent regulations cannot be simultaneously achieved during coprecipitation.

The concentration levels of the regulations were not derived from solubility curves of the individual hydroxides. They were developed from actual plant performance. From the data available, it appears that the presence of other metal ions in solution have synergistic effects which decreases the solubility of metal hydroxides. If a plant can document that the presence of other metal ions has an opposite effect, i.e., increased solubility of metal hydroxides, a variance may be warranted.

(9) A common criticism was that a daily maximum twice the thirty day average is insufficient to allow for the variation in treatment plant efficiency. The recommended treatment technology for the electroplating industry is a physical-chemical one. It is not dependent upon the vagaries of a biological process. For the latter, a one day variation of 1.5 from the thirty day maximum has been consistently achievable. Thus, a factor of 2 for the physical-chemical system is quite generous. See Section IX of the Development Documents for a detailed explanation of this. Moreover, a waste water treatment system is an integral part of an industrial plant. Its maintenance must be considered as equal in importance to the maintenance of any step requisite to the production of an item. Thus, should it cease proper functioning, the shutdown of a particular process as a method of checking an erratic discharge shall be required.

(10) A common criticism was that it was unclear which parameter should be monitored. There are many parameters listed under each subcategory. However, an electroplater should not be required to monitor for a parameter if it is not present in the waste stream. If any processing changes are made, a reevaluation of the pollutants present should be made.

(11) A common criticism was that it was unclear as to how the guidelines should be applied. Several examples showing plant situations have been added to the end of Section IX in the Development Documents to clarify application of the guidelines.

The Agency is subject to an order of the United States District Court for the District of Columbia entered in *Natural Resources Defense Council* v. *Train* et. al. (Civ. No. 1609–73 (which requires the promulgation of regulations for this industry category no later than December 26, 1974. This order also requires that such regulations become effective immediately upon publication. In addition, it is necessary to promulgate regulations establishing limitation on the discharge of pollutants from point sources in this category so that the process of issuing permits to individual dischargers under section 402 of the Act is not delayed.

It has not been practicable to develop and publish regulations for this category in proposed form, to provide a 30 day comment period, and to make any necessary revisions in light of the comments received within the time constraints imposed by the court order referred to above. Accordingly, the Agency has determined pursuant to 5 USC § 553(b) that notice and comment on the interim final regulations would be impracticable and contrary to the public interest. Good cause is also found for these regulations to become effective immediately upon publication.

Interested persons are encouraged to submit written comments. Comments should be submitted in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown, A-107. Comments on all aspects of the regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the amendment or modification of the regulation. In the event comments address the approach taken by the Agency in establishing an effluent limitation or guideline EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301 and 304(b) of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Documents and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before May 27, 1975 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202). In the event that the final regulation differs substantially from the interim final regulation set forth herein the Agency will consider petitions for reconsideration of any permits issued in accordance with these interim final regulations.

In consideration of the foregoing, 40 CFR Part 413 is hereby amended as set forth below.

Dated: April 9, 1975.

JOHN QUARLES,
Acting Administrator.

Subpart A—Electroplating of Common Metals Subcategory

Sec.
413.10 Applicability: description of the electroplating of common metals subcategory.
413.11 Specialized definitions.
413.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart B—Electroplating of Precious Metals Subcategory

413.20 Applicability: description of the electroplating of precious metals subcategory.
413.21 Specialized definitions.
413.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart C—Electroplating of Specialty Metals Subcategory [Reserved]

413.30 [Reserved]
413.31 [Reserved]
413.32 [Reserved]

Subpart D—Anodizing Subcategory

413.40 Applicability: description of the anodizing subcategory.
413.41 Specialized definitions.
413.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart E—Coatings Subcategory

413.50 Applicability; description of the coatings subcategory.
413.51 Specialized definitions.
413.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart F—Chemical Etching and Milling Subcategory

Section
413.60 Applicability; description of the chemical etching and milling subcategory.
413.61 Specialized definitions.
413.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

AUTHORITY: Secs. 301, 304 (b) and (c), 306 (b) and (c) and 307(c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316 (b) and (c) and 1317(c)); 86 Stat. 816 et seq.; Pub. L. 92-500.

Subpart A—Electroplating of Common Metals Subcategory

The name of Subpart A is revised to read as follows: Electroplating of Common Metals Subcategory.

Section 413.10 is revised to read as follows:

§ 413.10 Applicability; description of the electroplating of common metals subcategory.

The provisions of this subpart are applicable to discharges of pollutants resulting from the process in which a ferrous or nonferrous basis material is electroplated with copper, nickel, chromium, zinc, tin, lead, cadmium, iron, aluminum or any combination thereof.

Section 413.11 is revised to read as follows:

§ 413.11 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) The term "sq m" ("sq ft") shall mean the area plated expressed in square meters (square feet).

(c) The term "operation" shall mean any step in the electroplating process which is followed by a rinse and in which a metal is electrodeposited on a basis material.

(d) The term "CN,A" shall mean those cyanides amenable to chlorination as described in 1972 Annual Book of ASTM Standards, 1972, Standard D 2036–72, Method B, page 553.

Section 413.12 is revised to read as follows:

§ 413.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can effect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	160	80
Nickel	160	80
Cr, Total	160	80
CrVI	16	8
Zinc	160	80
CN, Total	160	80
CN, A	16	8
Fluoride	6400	3200
Cadmium	96	48
Lead	160	80
Iron	320	160
Tin	320	160
Phosphorus	320	160
TSS	6400	3200
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	32.7	16.4
Nickel	32.7	16.4
Cr, Total	32.7	16.4
CrVI	3.3	1.6
Zinc	32.7	16.4
CN, Total	32.7	16.4
CN, A	3.3	1.6
Fluoride	1308	654
Cadmium	19.2	9.6
Lead	32.7	16.4
Iron	65.4	32.7
Tin	65.4	32.7
Phosphorus	65.4	32.7
TSS	1308	654
pH	Within the range 6.0 to 9.5.	

(b) The post plating steps of chromating, phosphating and coloring, if followed by a rinse, may be included under the term "operation" for the purpose of calculating effluent discharges, providing such steps are an integral part of the plating line.

(c) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(e) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	16	8
CN, Total	160	80
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	3.3	1.6
CN, Total	32.7	16.4
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	

(f) Pursuant to section 308 of the Act, a point sources subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.12(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

5. Part 413 is further amended by adding the Electroplating of Precious Metals Subcategory (Subpart B), the Anodizing Subcategory (Subpart D), the Coatings Subcategory (Subpart E) and the Chemical Milling and Etching Subcategory (Subpart F) to read as follows:

Subpart B—Electroplating of Precious Metals Subcategory

§ 413.20 Applicability; description of the electroplating of precious metals on ferrous and nonferrous materials subcategory.

The provisions of this subpart are applicable to discharges resulting from the process in which a ferrous or nonferrous basis material is plated with gold, silver, iridium, palladium, platinum, rhodium, ruthenium or combination thereof.

§ 413.21 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) The term "sq m" ("sq ft") shall mean the area plated expressed in square meters (square feet).

(c) The term "operation" shall mean any step in the electroplating process which is followed by a rinse and in which a metal is electrodeposited on a basis material.

(d) The term "CN,A" shall mean those cyanides amenable to chlorination as described in 1972 Annual Book of ASTM Standards, 1972, Standard D 2036–72, Method B, page 553.

§ 413.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Documents. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Silver	16	8
Gold	16	8
CN, A	16	8
CN, Total	160	80
Cr, Total	160	80
CrVI	16	8
Iridium	16	8
Osmium	16	8
Palladium	16	8
Platinum	16	8
Rhodium	16	8
Ruthenium	16	8
Phosphorus	320	160
TSS	6400	3200
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Silver	3.3	1.6
Gold	3.3	1.6
CN, A	3.3	1.6
CN, Total	32.7	16.4
Cr, Total	32.7	16.4
CrVI	3.3	1.6
Iridium	3.3	1.6
Osmium	3.3	1.6
Palladium	3.3	1.6
Platinum	3.3	1.6
Rhodium	3.3	1.6
Ruthenium	3.3	1.6
Phosphorus	65.4	32.7
TSS	1308	654
pH	Within the range 6.0 to 9.5.	

(b) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(c) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step and forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Pursuant to section 308 of the Act, point sources subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.12(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart C—Electroplating of Specialty Metals Subcategory [Reserved]

Subpart D—Anodizing Subcategory

§ 413.40 Applicability; description of the anodizing subcategory.

The provisions of this subpart are applicable to discharges resulting from the anodizing of ferrous or nonferrous materials.

§ 413.41 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) The term "sq m" ("sq ft") shall mean the area acted upon by the anodizing process expressed in square meters (square feet).

(c) The term "operation" shall mean any step in the anodizing process which is followed by a rinse and in which a protective film is deposited on the object which acts as an anode.

(d) The term "CN,A" shall mean those cyanides amenable to chlorination as described in 1972 Annual Book of ASTM Standards, 1972, Standard D 2036–72, Method B, page 553.

§ 413.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of

this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	90	45
Nickel	90	45
Cr, Total	90	45
CrVI	9	4.5
Zinc	90	45
CN, Total	90	45
CN, A	9	4.5
Fluoride	3600	1800
Cadmium	54	27
Iron	180	90
Tin	180	90
Phosphorus	180	90
TSS	3600	1800
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	18.4	9.2
Nickel	18.4	9.2
Cr, Total	18.4	9.2
CrVI	1.8	.92
Zinc	18.4	9.2
CN, Total	18.4	9.2
CN, A	1.8	.92
Fluoride	738	369
Cadmium	8.8	4.4
Iron	36.8	18.4
Tin	36.8	18.4
Phosphorus	36.8	18.4
TSS	738	369
pH	Within the range 6.0 to 9.5.	

(b) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	9	4.5
CN, Total	90	45
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.8	.92
CN, Total	18.4	9.2
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	

(c) Pursuant to section 308 of the Act, point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.12(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart E—Coatings Subcategory

§ 413.50 Applicability; description of the coatings subcategory.

The provisions of this subpart are applicable to discharges resulting from the chromating, phosphating or immersion plating on ferrous or nonferrous materials.

§ 413.51 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) The term "sq m" ("sq ft") shall mean the area acted upon by the coating process expressed in square meters (square feet).

(c) The term "operation" shall mean any step in the coating process which is followed by a rinse and in which a protective film is deposited on the basis material.

(d) The term "CN,A" shall mean those cyanides amenable to chlorination as described in 1972 Annual Book of ASTM Standards, 1972, Standard D 2036–72, Method B, page 553.

§ 413.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	80	40
Nickel	80	40
Cr, Total	80	40
CrVI	8	4
Zinc	80	40
CN, Total	80	40
CN, A	8	4
Fluoride	3600	1800
Cadmium	48	24
Iron	160	80
Tin	160	80
Phosphorus	160	80
TSS	3600	1800
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	16.4	8.2
Nickel	16.4	8.2
Cr, Total	16.4	8.2
CrVI	1.6	.82
Zinc	16.4	8.2
CN, Total	16.4	8.2
CN, A	1.6	.82
Fluoride	646	323
Cadmium	9.8	4.9
Iron	32.8	16.4
Tin	32.8	16.4
Phosphorus	32.8	16.4
TSS	646	323
pH	Within the range 6.0 to 9.5.	

(b) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	8	4
CN, Total	80	40
Flow	Equalise	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.6	.82
CN, Total	16.4	8.2
Flow	Equalise	
pH	Within the range 6.0 to 9.0.	

(c) Pursuant to section 308 of the Act, point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.12(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart F—Chemical Etching and Milling Subcategory

§ 413.60 Applicability; description of the chemical etching and milling subcategory.

The provisions of this subpart are applicable to discharges resulting from the chemical milling or etching of ferrous or nonferrous materials.

§ 413.61 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) The term "sq m" ("sq ft") shall mean the area acted upon by the etching or milling process expressed in square meters (square feet).

(c) The term "operation" shall mean any step in the chemical etching or milling process which is followed by a rinse and in which some portion of the basis material is removed.

(d) The term "CN,A" shall mean those cyanides amenable to chlorination as described in 1972 Annual Book of ASTM Standards, 1972, Standard D 2036–72, Method B, page 553.

§ 413.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	120	60
Nickel	120	60
Cr, Total	120	60
CrVI	12	6
Zinc	120	60
CN, Total	120	60
CN, A	18	9
Fluoride	4800	2400
Cadmium	72	36
Iron	240	120
Tin	240	120
Phosphorus	240	120
TSS	4800	2400
pH	Within the range 6.0 to 9.5.	

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(English units) pounds per million square feet per operation		
Copper	24.6	12.3
Nickel	24.6	12.3
Cr, Total	24.6	12.3
CrVI	2.4	1.2
Zinc	24.6	12.3
CN, Total	24.6	12.3
CN, A	3.3	1.9
Fluoride	984	492
Cadmium	14.8	7.4
Iron	49.2	24.6
Tin	49.2	24.6
Phosphorus	49.2	24.6
TSS	984	492
pH	Within the range 6.0 to 9.5.	

(b) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meter per operation		
CN, A	9	4.5
CN, Total	90	45
Flow	Equalise	
ph	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.8	.92
CN, Total	18.4	9.2
Flow	Equalise	
pH	Within the range 6.0 to 9.0.	

(c) Pursuant to section 308 of the Act, point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.12(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

[FR Doc.75–10267 Filed 4–23–75;8:45 am]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 413]

[FRL 361-4]

ELECTROPLATING MANUFACTURING POINT SOURCE CATEGORY

Standards of Performance for New Sources and Pretreatment Standards for Existing and New Sources

Notice is hereby given that effluent limitations and guidelines for existing sources, standards of performance and pretreatment standards for new sources and pretreatment standards for existing sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA). On March 28, 1974, EPA promulgated a regulation adding Part 413 to Chapter 40 of the Code of Federal Regulations (39 FR 11510). That regulation with subsequent amendments established effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources for the electroplating manufacturing point source category. The regulation proposed below will amend 40 CFR Part 413—electroplating manufacturing point source category by deleting § 413.13(b) and revising §§ 413.14, 413.15, and 413.16 of electroplating of common metals subcategory (Subpart A) and adding §§ 413.23, 413.24, 413.25, and 413.26 to the electroplating of precious metals subcategory (Subpart B), §§ 413.43, 413.44, 413.45, and 413.46 to the anodizing subcategory (Subpart D), §§ 413.53, 413.54, 413.55, and 413.56 to the coating subcategory (Subpart E) and §§413.63, 413.64, 413.65, and 413.66 to the chemical etching and milling subcategory (Subpart F), pursuant to sections 301, 304 (b) and (c), 306(b) and 307 (b) and (c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317 (b) and (c), 86 Stat. 816 et seq.; Pub. L. 92-500) (the Act). Simultaneously with this proposed rule making EPA is promulgating interim final regulations which establish effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available for the above listed subparts.

(a) Legal Authority. Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedural innovations, operating methods and other alternatives. The regulation herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304(b) of the Act, for the electroplating of common metals (Subpart A), electroplating of precious metals subcategory (Subpart B), electroplating of specialty metals subcategory (Subpart C), anodizing subcategory (Subpart D), coatings subcategory (Subpart E), and chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The reports or "Development Documents" referred to below provide, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973 (38 FR 1624) a list of 27 source categories, including the electroplating manufacturing category. The regulation proposed herein amends the standards of performance applicable to new sources for the electroplating of common metals subcategory (Subpart A), and sets forth the standards of performance applicable to new sources for the electroplating of precious metals subcategory (Subpart B), the anodizing subcategory (Subpart D), the coatings subcategory (Subpart E) and the chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Section 413.16 proposed below amends the pretreatment standard for new sources within the electroplating of common metals subcategory (Subpart A) and §§ 413.26, 413.46, 413.56, and 413.66, proposed below, provide pretreatment standards for new sources within the precious metals plating subcategory (Subpart B), the anodizing subcategory (Subpart D), the coatings subcategory (Subpart E) and the chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category. Section 307(b) of the Act requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works and 40 CFR Part 128 establishes that the Agency will propose specific pretreatment standards at the time effluent limitations are established for point source discharges. Section 413.14 proposed below amends the proposed pretreatment standards for the electroplating of common metals subcategory (Subpart A) and §§ 413.24, 413.44, 413.54, and 413.64 proposed below provide pretreatment standards for existing sources within the electroplating of precious metals subcategory (Subpart B), the anodizing subcategory (Subpart D), and the coatings subcategory (Subpart E) and the chemical etching and milling subcategory (Subpart F) of the electroplating manufacturing point source category.

(b) Summary and Basis of Proposed Effluent Limitations for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources and Pretreatment Standards for Existing Sources.

The general methodology and summary of conclusions are discussed in considerable detail in the preamble of the interim final regulations for the electroplating of common metals subcategory (Subpart A), the electroplating of precious metals subcategory (Subpart B), the anodizing subcategory (Subpart D), the coatings subcategory (Subpart E) and the chemical etching and milling subcategory (Subpart F), which are being promulgated by EPA simultaneously with publication of this proposed regulation. The information contained in the preamble to the interim final regulation is incorporated herein by reference. The proposed regulation set forth below proposes pretreatment standards for pollutants introduced into publicly owned treatment works. The proposal will establish for each subpart the extent of application of effluent limitations to existing sources and to new sources which discharge to publicly owned treatment works. The regulation is intended to be complementary to the general regulation for pretreatment standards for existing sources set forth at 40 CFR Part 128. The general regulation was proposed July 19, 1973 (38 FR 19236), and published in final form on November 8, 1973 (38 FR

30982). The regulation proposed below applies to users of publicly owned treatment works which fall within the description of the point source category to which the limitations and standards apply. However, the proposed pretreatment regulation applies to the introduction of pollutants which are directed into a publicly owned treatment works, rather than to discharges of pollutants to navigable waters.

The general pretreatment standard divides pollutants discharged by users of publicly owned treatment works into two broad categories; "compatible" and "incompatible." Compatible pollutants are generally not subject to pretreatment standards. However, 40 CFR 128.131 (prohibited wastes) may be applicable to compatible pollutants. Additionally, local pretreatment requirements may apply (See 40 CFR 128.110). Incompatible pollutants are subject generally to pretreatment standards as provided in 40 CFR 128.133.

Sections 413.14, 413.24, 413.44, 413.54, and 413.64 of the regulation proposed below are intended to implement that portion of § 128.133, above, requiring that a separate provision be made stating the application to pretreatment standards of effluent limitations based upon best practicable control technology currently available.

Questions were raised during the public comment period on the proposed general pretreatment standard (40 CFR Part 128) about the propriety of applying a standard based upon best practicable control technology currently available to all plants subject to pretreatment standards. In general, EPA believes the analysis supporting the effluent limitations and guidelines is adequate to make a determination regarding the application of those standards to users of publicly owned treatment works. However, to ensure that those standards are appropriate in all cases, EPA now seeks additional comments focusing upon the application of effluent limitations guidelines to users of publicly owned treatment works.

The reports entitled "Development Document for Interim Final Effluent Limitations and Guidelines and Proposed New Source Performance Standards for the Metal Finishing Segment of the Electroplating Manufacturing Point Source Category" and the "Development Document for Interim Final Effluent Limitations and Guidelines and Proposed New Source Performance Standards for the Precious and Other Metals Segment of the Electroplating Manufacturing Point Source Category" detail the analysis undertaken in support of the regulation being proposed herein and is available for inspection in the EPA Freedom of Information Center, Room 204, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulation is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Office of Public Affairs, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown, A-107.

When this regulation is promulgated, revised copies of the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the Economic Analysis will be available through the National Technical Information Service, Springfield, Virginia 22151.

(c) Summary of public participation. A full listing of participants and discussion of comments and responses is included in the preamble of the interim final regulation for the electroplating of common metals, electroplating of precious metals, anodizing, coatings and chemical etching and milling subcategories being simultaneously promulgated by EPA and are incorporated herein by reference.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Office of Public Affairs, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown, A-107. Comments on all aspects of the proposed regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the development of the regulations. In the event comments address the approach taken by the Agency in establishing a standard of performance or pretreatment standard, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 306 and 307 (b) and (c) of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Freedom of Information Center, Room 204, West Tower, Waterside Mall, 401 M Street SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Documents and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before May 27, 1975 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated: April 9, 1975.

JOHN QUARLES,
Acting Administrator.

PART 413—ELECTROPLATING POINT SOURCE CATEGORY

Subpart A—Electroplating of Common Metals Subcategory

Sec.

413.13 Effluent limitations guidelines represetnting the degree of effluent reduction attainable by the application of the best available technology economically achievable.

413.14 Pretreatment standards for existing sources.

413.15 Standards of performance for new sources.

413.16 Pretreatment standards for new sources.

Subpart B—Electroplating of Precious Metals Subcategory

413.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

413.24 Pretreatment standards for existing sources.

413.25 Standards of performance for new sources.

413.26 Pretreatment standards for new sources.

Subpart C—Electroplating of Specialty Metals Subcategory [Reserved]

Subpart D—Anodizing Subcategory

413.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

413.44 Pretrentment standards for existing sources.

413.45 Standards of performance for new sources.

413.46 Pretreatment standards for new sources.

Subpart E—Coatings Subcategory

413.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

413.54 Pretreatment standards for existing sources.

413.55 Standards of performance for new sources.

413.56 Pretreatment standards for new sources.

Subpart F—Chemical Etching and Milling Subcategory

413.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

413.64 Pretreatment standards for existing sources.

413.65 Standards of performance for new sources.

413.66 Pretreatment standards for new sources.

AUTHORITY: Secs. 301, 304 (b) and (c), 306 (b) and (c) and 307 (c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316 (b) and (c) and 1317 (c)), 86 Stat. 816 et seq.; Pub. L. 92-500.

Subpart A—Electroplating of Common Metals Subcategory

Part 413 is proposed to be amended as follows:

Subpart A is amended by revising §§ 413.13, 413.14, 413.15, and 413.16 as follows:

§ 413.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology econmically achievable: There shall be no discharge of process waste water pollutants to navigable waters.

§ 413.14 Pretreatment standards for existing sources.

The pretreatment standard under section 307(b) of the Act for a source within the common metals plating subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be an existing point source subject to section 301 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in 40 CFR Part 128, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart.

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
	(Metric units) milligrams per square meters per operation	
Copper	160	80
Nickel	160	80
Cr, Total	160	80
CrVI	16	8
Zinc	160	80
CN, Total	160	80
CN, A	16	8
Fluoride	6400	3200
Cadmium	96	48
Lead	160	80
Iron	320	160
Tin	320	160
Phosphorus	320	160
T88	6400	3200
pH	Within the range 6.0 to 9.5.	
	(English units) pounds per million square feet per operation	
Copper	32.7	16.4
Nickel	32.7	16.4
Cr, Total	32.7	16.4
CrVI	3.3	1.6
Zinc	32.7	16.4
CN, Total	32.7	16.4
CN, A	3.3	1.6
Fluoride	1308	654
Cadmium	19.2	9.6
Lead	32.7	16.4
Iron	65.4	32.7
Tin	65.4	32.7
Phosphorus	65.4	32.7
T88	1308	654
pH	Within the range 6.0 to 9.5.	

(b) The post plating steps of chromating, if followed by a rinse, phosphating and coloring may be included under the term "operation" for the purpose of calculating effluent discharges, providing such steps are an integral part of the plating line.

(c) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(e) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the electroplating process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent Characteristic	Effluent Limitations: Maximum for any one day	Effluent Limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	16	8
CN, Total	160	80
Flow	Equalize	
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
CN, A	3.3	1.6
CN, Total	32.7	16.4
Flow	Equalize	
pH	Within the range 6.0 to 9.5	

(f) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.14(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.15 Standards of performance for new sources.

(a) The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	80	40
Nickel	80	40
Cr, Total	80	40
CrVI	8	4
Zinc	80	40
CN, Total	80	40
CN, A	8	4
Fluoride	3200	1600
Cadmium	48	24
Lead	80	40
Iron	160	80
Tin	160	80
Phosphorus	160	80
T88	3200	1600
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	16.4	8.2
Nickel	16.4	8.2
Cr, Total	16.4	8.2
CrVI	1.6	0.8
Zinc	16.4	8.2
CN, Total	16.4	8.2
CN, A	1.6	0.8
Fluoride	654	327
Cadmium	9.8	4.9
Lead	16.4	8.2
Iron	32.7	16.4
Tin	32.7	16.4
Phosphorus	32.7	16.4
T88	654	327
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.15(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.16 Pretreatment standards for new sources.

The pretreatment standard under section 307(c) of the Act for a new source

within the common metals plating subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	80	40
Nickel	80	40
Cr, Total	80	40
CrVI	8	4
Zinc	80	40
CN, Total	80	40
CN, A	8	4
Fluoride	2,200	1,600
Cadmium	48	24
Lead	80	40
Iron	160	80
Tin	160	80
Phosphorus	160	80
TSS	3,200	1,600
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	16.4	8.2
Nickel	16.4	8.2
Cr, Total	16.4	8.2
CrVI	1.6	0.8
Zinc	16.4	8.2
CN, Total	16.4	8.2
CN, A	1.6	0.8
Fluoride	454	327
Cadmium	9.8	4.9
Lead	16.4	8.2
Iron	32.7	16.4
Tin	32.7	16.4
Phosphorus	32.7	16.4
TSS	654	327
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.16(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart B—Electroplating of Precious Metals Subcategory

Subpart B is amended by adding §§ 413.23, 413.24, 413.25 and 413.26 as follows:

§ 413.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable: There shall be no discharge of process waste water pollutants to navigable waters.

§ 413.24 Pretreatment standards for existing sources.

The pretreatment standard under section 307(b) of the Act for a source within the precious metals plating subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be an existing point source subject to section 301 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in 40 CFR Part 128, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart.

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Silver	16	8
Gold	16	8
CN, A	16	8
CN, Total	160	80
Cr, Total	160	80
CrVI	16	8
Iridium	16	8
Osmium	16	8
Palladium	16	8
Platinum	16	8
Rhodium	16	8
Ruthenium	16	8
Phosphorus	320	160
TSS	6,400	3200
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Silver	3.3	1.6
Gold	3.3	1.6
CN, A	3.3	1.6
CN, Total	32.7	16.4
Cr, Total	32.7	16.4
CrVI	3.3	1.6
Iridium	3.3	1.6
Osmium	3.3	1.6
Palladium	3.3	1.6
Platinum	3.3	1.6
Rhodium	3.3	1.6
Ruthenium	3.3	1.6
Phosphorus	65.4	32.7
TSS	1308	654
pH	Within the range 6.0 to 9.5.	

(b) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(c) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.24(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.25 Standards of performance for new sources.

(a) The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Silver	8	4
Gold	8	4
CN, A	8	4
CN, Total	80	40
Cr, Total	80	40
CrVI	8	4
Iridium	8	4
Osmium	8	4
Palladium	8	4
Platinum	8	4
Rhodium	8	4
Ruthenium	8	4
Phosphorus	160	80
TSS	3200	1600
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Silver	1.6	0.8
Gold	1.6	0.8
CN, A	1.6	0.8
CN, Total	16.4	8.2
Cr, Total	16.4	8.2
CrVI	1.6	0.8
Iridium	1.6	0.8
Osmium	1.6	0.8
Palladium	1.6	0.8
Platinum	1.6	0.8
Rhodium	1.6	0.8
Ruthenium	1.6	0.8
Phosphorus	32.7	16.4
TSS	654	327
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.25(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.26 Pretreatment standards for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the precious metals plating subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Silver	8	4
Gold	8	4
CN, A	8	4
CN, Total	80	40
Cr, Total	80	40
CrVI	8	4
Iridium	8	4
Osmium	8	4
Palladium	8	4
Platinum	8	4
Rhodium	8	4
Ruthenium	8	4
Phosphorus	160	80
TSS	2000	1000
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Silver	1.6	0.8
Gold	1.6	0.8
CN, A	1.6	0.8
CN, Total	16.4	8.2
Cr, Total	16.4	8.2
CrVI	1.6	0.8
Iridium	1.6	0.8
Osmium	1.6	0.8
Palladium	1.6	0.8
Platinum	1.6	0.8
Rhodium	1.6	0.8
Ruthenium	1.6	0.8
Phosphorus	32.7	16.4
TSS	654	327
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.26(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart D—Anodizing Subcategory

Subpart D is amended by adding §§ 413.43, 413.44, 413.45 and 413.46 as follows:

§ 413.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable: there shall be no discharge of process waste water pollutants to navigable waters.

§ 413.44 Pretreatment standards for existing sources.

The pretreatment standard under section 307(b) of the Act for a source within the anodizing subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be an existing point source subject to section 301 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in 40 CFR Part 128, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart.

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	90	45
Nickel	90	45
Cr, Total	90	45
CrVI	9	4.5
Zinc	90	45
CN, Total	90	45
CN, A	9	4.5
Fluoride	3600	1800
Cadmium	54	27
Iron	180	90
Tin	180	90
Phosphorus	180	90
TSS	3600	1800
pH	Within the range 6.0 to 9.5.	
(English units) lb/1000 lb of product		
Copper	18.4	9.2
Nickel	18.4	9.2
Cr, Total	18.4	9.2
CrVI	1.8	.92
Zinc	18.4	9.2
CN, Total	18.4	9.2
CN, A	1.8	.92
Fluoride	738	369
Cadmium	8.8	4.4
Iron	36.8	18.4
Tin	36.8	18.4
Phosphorus	36.8	18.4
TSS	738	369
pH	Within the range 6.0 to 9.5.	

(b) The post plating steps of chromating, phosphating and coloring, if followed by a rinse, may be included under the term "operation" for the purpose of calculating effluent discharges, providing such steps are an integral part of the plating line.

(c) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(e) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	9	4.5
CN, Total	90	45
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.8	.92
CN, Total	18.4	9.2
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	

(f) Pursuant to section 308 of the Act, point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.44(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.45 Standards of performance for new sources.

(a) The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	45	23
Nickel	45	23
Cr, Total	45	23
CrVI	4.5	2.3
Zinc	45	23
CN, Total	45	23
CN, A	4.5	2.3
Fluoride	1800	900
Cadmium	27	14
Iron	90	45
Tin	90	45
Phosphorus	90	45
TSS	1800	900
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	9.2	4.6
Nickel	9.2	4.6
Cr, Total	9.2	4.6
CrVI	.92	.46
Zinc	9.2	4.6
CN, Total	9.2	4.6
CN, A	.92	.46
Fluoride	369	185
Cadmium	4.4	2.2
Iron	18.4	9.2
Tin	18.4	9.2
Phosphorus	18.4	9.2
TSS	369	185
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.45(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.46 Pretreatment standards for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the anodizing subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	45	23
Nickel	45	23
Cr, Total	45	23
CrVI	4.5	2.3
Zinc	45	23
CN, Total	45	23
CN, A	4.5	2.3
Fluoride	1800	900
Cadmium	27	14
Iron	90	45
Tin	90	45
Phosphorus	90	45
TSS	1800	900
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	9.2	4.6
Nickel	9.2	4.6
Cr, Total	9.2	4.6
CrVI	.92	.46
Zinc	9.2	4.6
CN, Total	9.2	4.6
CN, A	.92	.46
Fluoride	369	185
Cadmium	4.4	2.2
Iron	18.4	9.2
Tin	18.4	9.2
Phosphorus	18.4	9.2
TSS	369	185
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.46(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart E—Coatings Subcategory

Subpart E is amended by adding §§ 413.53, 413.54, 413.55, and 413.56 as follows:

§ 413.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable: There shall be no discharge of process waste water pollutants to navigable waters.

§ 413.54 Pretreatment standards for existing sources.

The pretreatment standard under section 307(b) of the Act for a source within the coatings subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be an existing point source subject to section 301 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in 40 CFR Part 128, except that, for the purpose of this section, 40 CFR §§ 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart.

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	80	40
Nickel	80	40
Cr, Total	80	40
CrVI	8	4
Zinc	80	40
CN, Total	80	40
CN, A	8	4
Fluoride	3600	1800
Cadmium	48	24
Iron	160	80
Tin	160	80
Phosphorus	160	80
TSS	3600	1800
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	16.4	8.2
Nickel	16.4	8.2
Cr, Total	16.4	8.2
CrVI	.82	.41
Zinc	16.4	8.2
CN, Total	16.4	8.2
CN, A	1.6	.82
Fluoride	646	323
Cadmium	9.8	4.9
Iron	32.8	16.4
Tin	32.8	16.4
Phosphorus	32.8	16.4
TSS	646	323
pH	Within the range 6.0 to 9.5.	

(b) The post plating steps of chromating, phosphating and coloring, if followed by a rinse, may be included under the term "operation" for the purpose of calculating effluent discharges, providing such steps are an integral part of the plating line.

(c) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvag-

ing improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Electroless plating on non-metallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(e) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	8	4
CN, Total	80	40
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.6	.82
CN, Total	16.4	8.2
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	

(f) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.54(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.55 Standards of performance for new sources.

(a) The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	40	20
Nickel	40	20
Cr, Total	40	20
CrVI	4	2
Zinc	40	20
CN, Total	40	20
CN, A	4	2
Fluoride	1800	900
Cadmium	24	12
Iron	80	40
Tin	80	40
Phosphorus	80	40
TSS	1800	900
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	8.2	4.1
Nickel	8.2	4.1
Cr, Total	8.2	4.1
CrVI	.82	.41
Zinc	8.2	4.1
CN, Total	8.2	4.1
CN, A	.82	.41
Fluoride	323	161
Cadmium	4.9	2.5
Iron	16.4	8.2
Tin	16.4	8.2
Phosphorous	16.4	8.2
TSS	323	161
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.55(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.56 Pretreatment standards for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the coatings subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	40	20
Nickel	40	20
Cr, Total	40	20
CrVI	4	2
Zinc	40	20
CN, Total	40	20
CN, A	4	2
Fluoride	1800	900
Cadmium	24	12
Iron	80	40
Tin	80	40
Phosphorus	80	40
TSS	1800	900
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	8.2	4.1
Nickel	8.2	4.1
Cr, Total	8.2	4.1
CrVI	.82	.41
Zinc	8.2	4.1
CN, Total	8.2	4.1
CN, A	.82	.41
Fluoride	323	161
Cadmium	4.9	2.5
Iron	16.4	8.2
Tin	16.4	8.2
Phosphorous	16.4	8.2
TSS	323	161
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.56(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

Subpart F—Chemical Etching and Milling Subcategory

Subpart F is amended by adding §§ 413.63, 413.64, 413.65, and 413.66 as follows:

§ 413.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable: there shall be no discharge of process waste water pollutants to navigable waters.

§ 413.64 Pretreatment standards for existing sources.

The pretreatment standard under section 307(b) of the Act for a source within the chemical etching and milling subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be an existing point source subject to section 301 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in 40 CFR Part 128, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132, and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart.

Pollutant or Pollutant Property	Pretreatment Standards: Maximum for any one day	Pretreatment Standards: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	120	60
Nickel	120	60
Cr, Total	120	60
CrVI	12	6
Zinc	120	60
CN, Total	120	60
CN, A	18	9
Fluoride	4800	2400
Cadmium	72	36
Iron	240	120
Tin	240	120
Phosphorus	240	120
TSS	4800	2400
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	24.6	12.3
Nickel	24.6	12.3
Cr, Total	24.6	12.3
CrVI	2.4	1.2
Zinc	24.6	12.3
CN, Total	24.6	12.3
CN, A	3.8	1.9
Fluoride	984	492
Cadmium	14.8	7.4
Iron	49.2	24.6
Tin	49.2	24.6
Phosphorus	49.2	24.6
TSS	984	492
pH	Within the range 6.0 to 9.5.	

(b) The post plating steps of chromating, phosphating and coloring, if followed by a rinse, may be included under the term "operation" for the purpose of calculating effluent discharges, providing such steps are an integral part of the plating line.

(c) Stripping, where followed by a rinse and conducted in conjunction with electroplating for the purpose of salvaging improperly plated parts, may be included under the term "operation" for the purpose of calculating effluent discharges.

(d) Electrolysis plating on nonmetallic materials for the purpose of providing a conductive surface on the basis material, preceding the actual electroplating step, forming an integral step in the plating line and followed by a rinse may be included under the term "operation" for the purpose of calculating effluent discharges.

(e) For any point source subject to such effluent limitations with a total employment of less than 11 persons, with a discharge from the establishment of waste water generated from the metal finishing process of less than 7,800 liters per hour (2,061 gallons per hour) and with a production rate of less than 4.9 sq m per hour per employee (52.7 sq ft per hour per employee), the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
CN, A	9	4.5
CN, Total	90	45
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	
(English units) pounds per million square feet per operation		
CN, A	1.8	.92
CN, Total	18.4	9.2
Flow	Equalize	
pH	Within the range 6.0 to 9.0.	

(f) Pursuant to section 308 of the Act, point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.64(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.65 Standards of performance for new sources.

(a) The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	60	30
Nickel	60	30
Cr, Total	60	30
CrVI	6	3
Zinc	60	30
CN, Total	60	30
CN, A	9	5
Fluoride	2400	1200
Cadmium	36	18
Iron	120	60
Tin	120	60
Phosphorus	120	60
TSS	2400	1200
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	12.3	6.2
Nickel	12.3	6.2
Cr, Total	12.3	6.2
CrVI	1.2	.06
Zinc	12.3	6.2
CN, Total	12.3	6.2
CN, A	1.9	0.9
Fluoride	492	246
Cadmium	7.4	3.7
Iron	24.6	12.3
Tin	24.6	12.3
Phosphorus	24.6	12.3
TSS	492	246
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.11 for the purpose of determining compliance with the effluent limitations in § 413.65(a) of his subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

§ 413.66 Pretreatment standards for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the chemical etching and milling subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR §§ 128.121, 128.122, 128.132 and 128.133 shall not apply.

(a) The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be dis-

charged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standards	
	Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
(Metric units) milligrams per square meters per operation		
Copper	60	30
Nickel	60	30
Cr, Total	60	30
CrVI	6	3
Zinc	60	30
CN, Total	60	30
CN, A	9	5
Fluoride	2400	1200
Cadmium	36	18
Iron	120	60
Tin	120	60
Phosphorus	120	60
TSS	2400	1200
pH	Within the range 6.0 to 9.5.	
(English units) pounds per million square feet per operation		
Copper	12.3	6.2
Nickel	12.3	6.2
Cr, Total	12.3	6.2
CrVI	1.2	0.6
Zinc	12.3	6.2
CN, Total	12.3	6.2
CN, A	1.9	0.9
Fluoride	492	246
Cadmium	7.4	3.7
Iron	24.6	12.3
Tin	24.6	12.3
Phosphorus	24.6	12.3
TSS	492	246
pH	Within the range 6.0 to 9.5.	

(b) Pursuant to section 308 of the Act, the owner or operator of a point source subject to the provisions of this subpart shall maintain records of production expressed in sq m or sq ft as defined in § 413.66 for the purpose of determining compliance with the effluent limitations in § 413.15(a) of this subpart. For the purpose of complying with the requirements of this paragraph, a discharger may establish a correlation between area plated and another parameter, such as ampere-hours used in plating.

[FR Doc.75-10288 Filed 4-23-75;8:45 am]